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　　　　　　　ISHIBASHI MASAKAZU

(54) COMMUNICATION TERMINAL EQUIPMENT

(57)Abstract:

PROBLEM TO BE SOLVED: To register a telephone number and an electronic mail address to an abbreviation dial or a one easy step key in a coexisting state by providing a function for automatically discriminating whether the one registered in the abbreviation dial or the one easy step key is the telephone number of an opposite party or the electronic mail address.

SOLUTION: CPU 1 reads the telephone number of the opposite party or the electronic mail address which are designated by the abbreviation dial or the one easy step key of an operating part 5 from the opposite party table T1 of RAM 7. It is continuously checked whether or not read transmission destination data consists of only numerals or of marks being peculiar to the numerals and the telephone number so that whether the telephone number or the electronic mail address is judged and a processing for executing facsimile communication to the opposite party telephone number or the processing for transmitting the electronic mail to the opposite party electronic mail address is executed. Thus, the telephone number and the electronic mail address are registered in the abbreviation dial or one easy step key by coexisting.
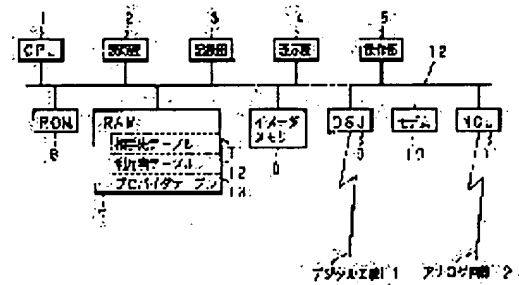
LEGAL STATUS

[Date of request for examination]   18.12.2001

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[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

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CLAIMS

[Claim(s)]
[Claim 1] The communication terminal characterized by having a means to match and register a phase hand's telephone number, and either of the e-mail addresses into abbreviated dialing or an one-touch key in the communication terminal in which facsimile communication and the electronic mail transmission to a computer communication network are possible, and a means to communicate with a phase hand based on the telephone number or the e-mail address corresponding to the operated abbreviated dialing or one-touch key.
[Claim 2] The communication terminal according to claim 1 which is equipped with the means which specifies each of two or more telephone numbers or e-mail addresses of a phase hand by actuation of abbreviated dialing or an one-touch key, and carries out broadcast, and has made possible making the telephone number and an e-mail address intermingled, and specifying two or more phase hands who should do broadcast.
[Claim 3] It is the communication terminal [equipped with a means to judge whether it matches and the telephone number is registered with the operated abbreviated dialing or one-touch key by whether the data equivalent to the telephone number or an e-mail address consist only of a figure, or it consists only of a figure and a predetermined notation] according to claim 1 or 2.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to a communication terminal connectable with the *internet* computer communication network which transmits an electronic mail through the Internet etc.
[0002]
[Description of the Prior Art] There are G3 machine connected to an analog network and G4 set connected to a digital channel in the conventional facsimile apparatus, and it is used widely. In recent years, the computer communication network which distributes an electronic mail through the Internet which connected by the communication line and connected the local computer communication network by network further is spreading. A computer communication network is excellent in an error correction function, only pays the communication link costs to a nearby contract provider (provider to a computer communication network), and can communicate with the computer of not only Japan but an overseas.
[0003] Since the communication procedure and communication mode of conventional G3 and a G4 facsimile differ from a computer communication network, they are not connectable with a direct computer communication network. However, even if it is image datas, such as a transmitting manuscript, it can transmit to a computer communication network by changing into an electronic mail format.
[0004] When transmitting the image data changed into the electronic mail format to such a computer communication network, in order to specify the destination of an electronic mail, the domain name (bbbb.co.jp) which specifies a user name (aaaa), @ mark, and the network group to whom this user belongs further is inputted and specified like "aaaa@bbbb.co.jp."
[0005] Moreover, the key generally called abbreviated dialing and an one-touch key is prepared in the communication terminal, a user can register into abbreviated dialing or an one-touch key beforehand the telephone number of the phase hand who communicates frequently, and the time and effort of an input can be saved by enabling it to call a phase hand by little key input, and an input mistake can be avoided.
[0006]
[Problem(s) to be Solved by the Invention] However, in the conventional communication terminal, since it is made to a rule [register / into abbreviated dialing or an one-touch key / a phase hand's telephone number], when an e-mail address is registered, actuation of directing that the e-mail address is registered in addition to actuation of abbreviated dialing or an one-touch key is needed.
[0007] While making it possible to make the telephone number and an e-mail address intermingled to abbreviated dialing or an one-touch key, and to register with it from preparing the function which distinguishes automatically whether this inventions are whether it is made in order to solve such a trouble, and a phase hand's telephone number is registered with abbreviated dialing or an one-touch key, and an e-mail address, it aims at offer of the communication terminal which does not need actuation except selection actuation of abbreviated dialing or an one-touch key in that case.
[0008]
[Means for Solving the Problem] The communication terminal of the 1st invention is characterized by

having a means to match and register a phase hand's telephone number, and either of the e-mail addresses into abbreviated dialing or an one-touch key, and a means to communicate with a phase hand based on the telephone number or the e-mail address corresponding to the operated abbreviated dialing or one-touch key in the communication terminal in which facsimile communication and the electronic mail transmission to a computer communication network are possible.

[0009] In addition to the 1st invention, the communication terminal of the 2nd invention is equipped with the means which specifies each of two or more telephone numbers or e-mail addresses of a phase hand by actuation of abbreviated dialing or an one-touch key, and carries out broadcast, and is characterized by having made possible making the telephone number and an e-mail address intermingled, and specifying two or more phase hands who should do broadcast.

[0010] The communication terminal of the 3rd invention is characterized by having a means to judge whether in addition to the 1st or 2nd invention it matches and the telephone number is registered with the operated abbreviated dialing or one-touch key by whether the data equivalent to the telephone number or an e-mail address consist only of a figure, or it consists only of a figure and a predetermined notation.

[0011] a ****** [that it is only a figure at the transmission place which the communication terminal of this invention registers a phase hand's telephone number, and either of the e-mail addresses into abbreviated dialing or an one-touch key, and is registered into the specified abbreviated dialing or one-touch key] -- or -- if it judges any of the telephone number and an e-mail address they are by whether it is only with a figure and a predetermined notation and is the telephone number -- the usual facsimile communication -- moreover, if it is an e-mail address, an electronic mail will be transmitted to a computer communication network. Also when the telephone number and an e-mail address are made intermingled to abbreviated dialing or an one-touch key and it registers with it by this, actuation except selection actuation of abbreviated dialing or an one-touch key is not needed.

[0012]
[Embodiment of the Invention] With the gestalt of operation of this invention, an image data shall be transmitted as an electronic mail and the Internet shall be used as a computer communication network. The hardware configuration of the communication terminal of this invention is explained based on drawing 1 . In addition to conventional G3 and the facsimile communication facility of G4, the communication terminal is equipped with the function for communicating with the Internet. CPU1 not only controls each part of hardware of a communication terminal, but performs software, such as below-mentioned coding and decryption, image (TIFF) conversion, binary text conversion, e-mail edit, and a communication procedure, through a bus 12.

[0013] A read station 2 reads a manuscript by CCD etc., and outputs a monochrome binary image data. The Records Department 3 has printers, such as an electrophotography method, and records the image data which received from other G3, G4 facsimile equipment, and Internet. A display 4 is equipped with a liquid crystal display etc., and performs the operating state of a communication terminal, and the display of an image data.

[0014] The control unit 5 is equipped with various kinds of function keys, such as the telephone number to a ten key required to operate a communication terminal, abbreviated dialing, an one-touch key, and abbreviated dialing / one-touch key, or a register mode setup of an e-mail address, etc. ROM6 memorizes software required for actuation of a communication terminal. RAM7 consisted of SRAM or a flash memory, memorizes temporary data generated at the time of activation of software, and also it has memorized various kinds of tables (after-mentioned). Image memory 8 consists of DRAMs etc. and memorizes an image data.

[0015] DSU (Data Circuit Terminating Equipment: Digital Service Unit)9 performs conversion of a transmitted and received data and an electrical potential difference so that it can connect with the digital channel L1 which is using the base band transmission method. The modem 10 is equipped with the data modem function other than the conventional fax modem function. NCU11 performs closing of an analog network L2, and disconnection.

[0016] Drawing 2 shows typically the data flow in the communication terminal of this invention. The

same sign is shown in the part corresponding to <u>drawing 1</u> . The below-mentioned coding decryption section 21, the image transformation <u>section</u> 22, the binary <u>text transducer</u> 23, the e-mail editorial <u>department</u> 24, and the auto dialer <u>25 are</u> processed by CPU1 based on the software memorized by ROM6, although a corresponding sign does not exist in <u>drawing 1</u> .

[0017] Coding / decryption section 21 <u>encodes or decrypts</u> an image data with coding methods, such as MH, MR, and MMR. Hereafter, the image data encoded by these coding methods is called "the image data of G3 format." Image memory 8 memorizes the image data of G3 format.

[0018] At the time of transmission, the image data of G3 format is changed into TIFF (Tagged Image File Format) which is the general graphics format used by computer, and the image transformation section 22 changes it from TIFF at the image data of G3 format at the time of reception. TIFF It treats [it is opened to the public by Adobe Systems, and] not only monochrome binary one but monochrome multiple value and full color ** and is various. Class is defined. It is one in it. CLASS F defines the image data of G3 format. Therefore, it is CLASS F in the file of G3 format. Tag It is convertible for TIFF by embedding. The following and CLASS F Tag The image data of embedded G3 format is called a "TIFF image data."

[0019] The binary text transducer 23 changes <u>binary data into text</u> data at the time of transmission, and changes text data into binary data at the time of reception. The computer <u>which cannot</u> treat the <u>electronic mail of binary data exists in</u> the Internet. In transmitting binary data, such as a TIFF image data, so that an electronic mail may reach a phase hand certainly, it once changes into text data. The text data treated by the Internet is IETF (Internet Engineering TaskForce). RFC (Request For Comments)822 which is the document to publish is specified as a 7-bit code.

[0020] Then, MIME (Multipurpose Internet Mail Extensions) It changes using base64 etc. According to this, 6-bit binary data are the character of 64. (the alphabet of a capital letter and a small letter, a figure, +,/) It is transposed to one and can change into text data. MIME is prescribed by RFC.

[0021] At the time of transmission, the <u>e-mail editorial department</u> 24 adds mail header information to the TIFF image data changed into text data, edits into an electronic mail format, at the time of reception, removes mail header information from the data of an electronic mail format, and takes out only the TIFF image data changed into text data. Since adding predetermined header information to the electronic mail of the Internet is specified, at the time of transmission At the head of a TIFF image data "From: (a user's Internet e-mail address) (that the copy of a letter is sent also to the destination directed in this line) ", "To : (a phase hand's Internet e-mail address) ", "Subject: (title)", "cc : it is shown -- "and "Date: (transmitting time) " etc. -- an item is added.

[0022] The auto dialer 25 sends phase hand telephone number data to DSU9, a modem 10, or NCU11 that call origination should be carried out to the telephone number read from the phase hand table T1 and provider table T3.

[0023] Next, each table is explained. <u>Drawing 3</u> (A) The phase hand table T1 is related with that into which either a phase hand name, the Internet e-mai single address or a facsimile number is registered into for every abbreviated number or one-touch dial so that it may be shown, and the facsimile number is registered, and is facsimile classification. (G3 or G4) It is registered. <u>Drawing 3</u> (B) He is a user so that it may be shown. (addresser) User ID for a table T2 to log in to the user name of a communication terminal, the Internet e-mai single address, the provider classification a contract of is made, and the Internet, and a password are registered. In a place of business etc., when two or more users share one communication terminal, it is also possible to register for every user and to choose at the time of transmission.

[0024] <u>Drawing 3</u> (C) They are a provider's telephone number used when connecting provider table T3 to the Internet so that it may be shown, and a circuit class. (an analog or digital) A provider name and provider classification are memorized. Provider classification is for identifying a login procedure which corresponds with the provider classification of the user table T2, and is different for every provider. When one provider has two or more telephone lines, or when using two or more providers, it is also possible to register for every telephone number and to choose at the time of transmission.

[0025] The procedure of transmitting an electronic mail to the Internet is explained. A protocol uses the

thing of Table 1 in each class of an OSI reference modem.
[0026]
[Table 1]

表 1

第7層 応用層 第6層 プレゼンンテーション層 第5層 セッション層	送信 : SMTP 　　(Simple Mail Transfer Protocol) 受信 : POP(Post Office Protocol)
第4層 トランスポート層	TCP(Transmission Control Protocol)
第3層 ネットワーク層	IP(Internet Protocol)
第2層 データリンク層 第1層 物理層	V. 34 等 (アナログ回線) 等 X. 25 (デジタル回線)

[0027] First, a login procedure is explained. a communication terminal is shown in drawing 4 -- as -- a provider's computer (henceforth a server) if a circuit is set up -- PAP (Password Authentication Protocol) -- following -- user ID and a password -- from a provider Ack -- or -- Nack It continues transmitting until it receives. If Nack is received, it will redial after opening a circuit. Ack If it receives, a log in in a server will be completed.
[0028] After log in completing to a server, as it is shown in drawing 5 , an electronic mail is transmitted by SMTP. First, a communication terminal carries out the connection request of SMTP to a server. If a server is connectable, it will return a response code 220 to a communication terminal. Furthermore, if a communication terminal transmits its own domain name by the "HELO" command and a server can recognize the domain name of a communication terminal, the domain name of a response code 250 and a server will be returned. Then, the "QUIT" command will be transmitted, if a communication terminal transmits e-mail and is completed. SMTP will be completed if a server returns a response code 221 according to this. It logs in from a server after the completion of transmitting of an electronic mail, and a circuit is opened.
[0029] Next, actuation of the communication terminal of this invention is explained based on the flow chart of drawing 6 . First, a user is a transmitting base about the manuscript to transmit. (un-illustrating) It sets. (S1) . Next, a phase hand is chosen by pushing a start key following the abbreviated number input by abbreviated dialing from a control unit 5, or pressing an one-touch key (S2). In addition, at this time, it cannot be concerned with any shall be registered between the telephone number and an e-mail address, but the telephone number and an e-mail address can be made intermingled, and two or more phase hands can be specified.
[0030] Furthermore, the pass code for choosing from the user table T2 the user name into which the user itself was registered is inputted. In pass code, a user name is specified for preventing the unauthorized use by others. This pass code can also be used also [password / for accessing the Internet].
[0031] A communication terminal reads one manuscript of a manuscript base at a time, once encodes all pages by the MMR method by coding / decryption section 21, and accumulates them in image memory 8 as an image data of G3 format. (S3) . A phase hand's telephone number or e-mail address specified by the abbreviated number or the one-touch key is read from the phase hand table T1. Then, processing for transmitting an electronic mail to the processing for judging by checking whether a phase hand's transmission place read from the phase hand table T1 is an e-mail address and whether the data of a transmission place consist of a notation only with a figure peculiar to the telephone numbers, such as a

figure, a hyphen, and a pause, and carrying out facsimile communication to the telephone number of (S4) and a phase hand or a phase hand's e-mail address is performed.

[0032] When a transmission place is not an e-mail address as a result of decision of S4, call origination is carried out to each telephone number of a transmission place (S5), the usual facsimile transmission is performed (S6), and a circuit is opened (S7). The above processing of S4-S7 is repeated about all the transmission places chosen as a phase hand (S8).

[0033] When a transmission place is an e-mail address as a result of decision of S4, since it cannot transmit, by the Internet, the image data of G3 format is directly changed into an electronic mail format as follows. The image transformation section 22 is CLASS F of TIFF in the file of the image data of G3 format. Tag to say It embeds and a TIFF image data is created. (S9) . Since a TIFF image data is binary data, the binary text transducer 23 changes this into text data. (S10) .

[0034] Furthermore, the e-mail editorial department 24 adds the header of an electronic mail to the TIFF image data changed into text data. (S11) . In this header, it is "From at least. : ", "To : The item of " and "Subject:" is included. "From : A user's Internet e-mai single address chosen as "from the user table T2, "To : "TIFF (G3)" which shows that it is the electronic mail which contains the image data of a TIFF format in a phase hand's Internet e-mai single address read from the phase hand table T1 and "Subject:" by this example is set as ." In addition, it is "To when two or more phase hands by the e-mail address are chosen. Two or more phase hands' e-mail addresses are enumerated to :" less or equal.

[0035] If the data of an electronic mail format are completed, a dialup connection will be carried out to the Internet. Classification of a provider's circuit which the user has made a contract of from provider table T3 (analog to digital) It judges, if it is an analog network, a modem 10 will be set up, and if it is a digital channel, DSU9 is set up and it logs in according to PAP which mentioned the response above by carrying out call origination to the provider's telephone number when the telephone line with waiting and a provider was set up (S12). An electronic mail is transmitted by SMTP (S13), it logs out after the completion of transmitting, and the telephone line is opened wide. (S14) It shifts to S8.

[0036] In addition, although the gestalt of operation of this invention explained the case where the Internet was used as a computer communication network, computer communication networks may be not only the Internet but other computer communication networks, and can acquire the same effectiveness as this invention.

[0037] Moreover, although the gestalt of operation of this invention explained the case where it was judged by whether the alphabetic character of the data of a transmission place consists of the figure and the notation peculiar to the telephone number whether the telephone number of a transmission place is registered or the e-mail address is registered, you may make it form the flag which shows any of the telephone number and an e-mail address the transmission places registered are.

[0038]

[Effect of the Invention] As mentioned above, it does so the outstanding effectiveness of not needing actuation except selection actuation of abbreviated dialing or an one-touch key in that case while it makes it possible to make the telephone number and an e-mail address intermingled to abbreviated dialing or an one-touch key, and to register with it, since the communication terminal of this invention prepared the function which distinguishes automatically whether a phase hand's telephone number is registered with abbreviated dialing or an one-touch key, or it is an e-mail address.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to a communication terminal connectable with the computer communication network which transmits an electronic mail through the Internet etc.

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PRIOR ART

[Description of the Prior Art] There are G3 machine connected to an analog network and G4 set connected to a digital channel in the conventional facsimile apparatus, and it is used widely. In recent years, the computer communication network which distributes an electronic mail through the Internet which connected by the communication line and connected the local computer communication network by network further is spreading. A computer communication network is excellent in an error correction function, only pays the communication link costs to a nearby contract provider (provider to a computer communication network), and can communicate with the computer of not only Japan but an overseas.
[0003] Since the communication procedure and communication mode of conventional G3 and a G4 facsimile differ from a computer communication network, they are not connectable with a direct computer communication network. However, even if it is image datas, such as a transmitting manuscript, it can transmit to a computer communication network by changing into an electronic mail format.
[0004] When transmitting the image data changed into the electronic mail format to such a computer communication network, in order to specify the destination of an electronic mail, the domain name (bbbb.co.jp) which specifies a user name (aaaa), @ mark, and the network group to whom this user belongs further is inputted and specified like "aaaa@bbbb.co.jp."
[0005] Moreover, the key generally called abbreviated dialing and an one-touch key is prepared in the communication terminal, a user can register into abbreviated dialing or an one-touch key beforehand the telephone number of the phase hand who communicates frequently, and the time and effort of an input can be saved by enabling it to call a phase hand by little key input, and an input mistake can be avoided.

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EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, it does so the outstanding effectiveness of not needing actuation except selection actuation of abbreviated dialing or an one-touch key in that case while it makes it possible to make the telephone number and an e-mail address intermingled to abbreviated dialing or an one-touch key, and to register with it, since the communication terminal of this invention prepared the function which distinguishes automatically whether a phase hand's telephone number is registered with abbreviated dialing or an one-touch key, or it is an e-mail address.

[Translation done.]

* NOTICES *

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, in the conventional communication terminal, since it is made to a rule [register / into abbreviated dialing or an one-touch key / a phase hand's telephone number], when an e-mail address is registered, actuation of directing that the e-mail address is registered in addition to actuation of abbreviated dialing or an one-touch key is needed.
[0007] While making it possible to make the telephone number and an e-mail address intermingled to abbreviated dialing or an one-touch key, and to register with it from preparing the function which distinguishes automatically whether this inventions are whether it is made in order to solve such a trouble, and a phase hand's telephone number is registered with abbreviated dialing or an one-touch key, and an e-mail address, it aims at offer of the communication terminal which does not need actuation except selection actuation of abbreviated dialing or an one-touch key in that case.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram of the communication terminal of this invention.
[Drawing 2] It is the mimetic diagram showing the data flow in the communication terminal of this invention.
[Drawing 3] It is drawing showing the table memorized by the communication terminal of this invention.
[Drawing 4] It is drawing showing the login procedure to a server.
[Drawing 5] It is drawing showing the procedure of transmitting an electronic mail to a server.
[Drawing 6] It is the flow chart of actuation of the communication terminal of this invention.
[Description of Notations]
1 CPU
5 Control Unit
6 ROM
7 RAM

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DRAWINGS

[Drawing 1]

[Drawing 2]

[Drawing 4]

Handwritten annotations:
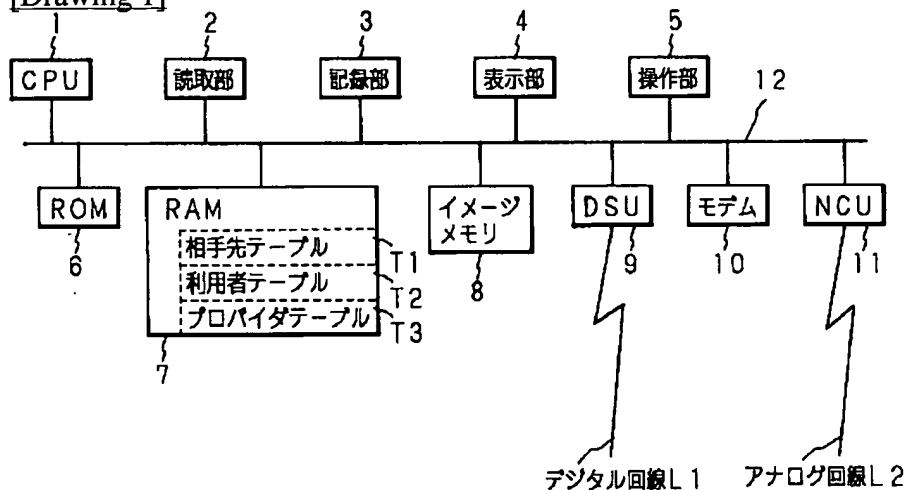
2: Reader
3: printer
4: Display
5: Controller
9: DSU
L1: Digital channel
10: Modem
L2: analog netwk
2: Decrypter
25: auto dialer

Drawing 4

通信端末装置　　　プロバイダ
　　　　　　　　　（サーバ）

ＩＤパスワード

ＩＤパスワード

：

ＡＣＫまたはＮＡＣＫ

[Drawing 5]

通信端末装置　　　プロバイダ
　　　　　　　　　（サーバ）

ＳＭＴＰ接続要求

応答コード２２０

ＨＥＬＯコマンド

応答コード２５０

電子メールデータ

ＱＵＩＴコマンド

応答コード２２１
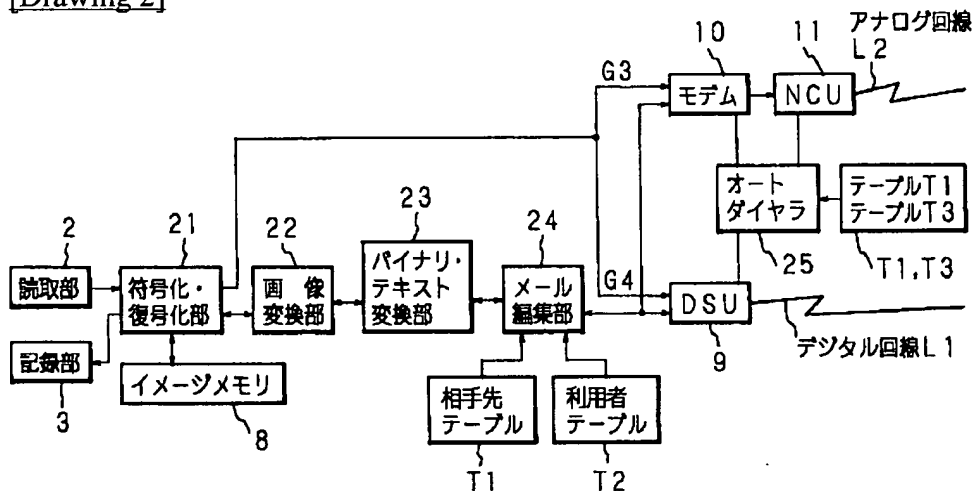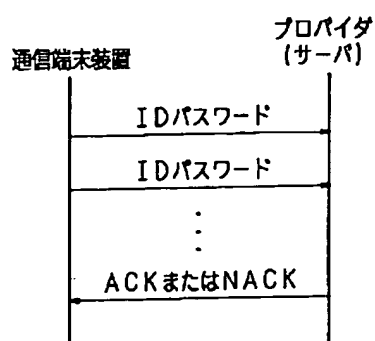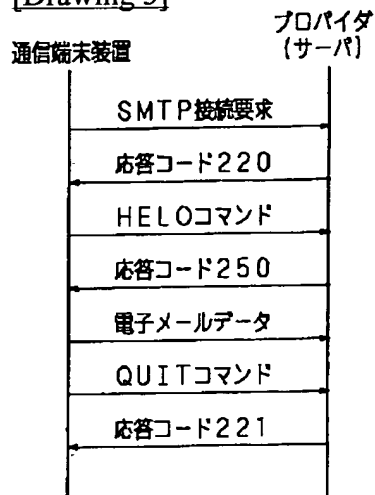
[Drawing 3]

（Ａ）相手先テーブルＴ１

短縮／ワンタッチ	相手先名称	電話番号／e-mailアドレス	ファクシミリ種別
短縮００１	ABC CORP.	abc@abc.or.jp	
短縮００２	山上商店	075-321-1111	G3
ワンタッチ A	マット商会	abc00123@niftyserve.or.jp	
ワンタッチ B	市場株式会社	075-345-3333	G4

（Ｂ）利用者（発信者）テーブルＴ２

ユーザ名	ユーザID	パスワード	インターネットe-mailアドレス	プロバイダ種別
十条株式会社	julo	asdf	julo@tokyo.or.jp	A
田中一郎	tanaka	lkl	tanaka@tokyo.or.jp	A

（Ｃ）プロバイダテーブルＴ３

電話番号	回線種別	プロバイダ名称	プロバイダ種別
03-3222-7771	digital	○○ネット	A
03-3555-3333	analog	××ネット	B

[Drawing 6]

```
                    ┌──────────┐
                    │  送  信  │
                    └──────────┘
                         │
                    ┌────────┐ S1
                    / 原稿セット /
                    └────────┘
                         │
                    ┌────────┐ S2                    ┌────────┐ S9
                    │ 相手先  │                      │ TIFF変換 │
                    │選択／入力│                      └────────┘
                    │（複数可）│                          │
                    └────────┘                      ┌────────┐ S10
                         │                          │バイナリーテキスト│
                    ┌────────┐ S3                   │  変  換  │
                    │原稿読み取り│                    └────────┘
                    └────────┘                          │
                         │    S4                    ┌────────┐ S11
                       ◇                            │電子メールフォー│
                      ╱送信先が電子╲  YES            │マットへの変換 │
                     ◇メールアドレス◇──────►        │（複数の送信先は│
                      ╲    ？    ╱                  │ 一つに ）    │
                       ◇                            └────────┘
                        │NO                              │
                    ┌────────┐ S5                   ┌────────┐ S12
                    │ 発  呼  │                      │発呼＆ログイン│
                    └────────┘                      └────────┘
                         │                              │
                    ┌────────┐ S6                   ┌────────┐ S13
                    │通常FAX送信│                     │電子メール送信│
                    └────────┘                      └────────┘
                         │                              │
                    ┌────────┐ S7                   ┌────────┐ S14
                    │ 回線断  │                      │ログアウト＆回線断│
                    └────────┘                      └────────┘
                         │    S8                        │
              YES      ◇                               │
         ┌────────────◇他の送信先？◇──────────────────┘
         │              ╲        ╱
         │               ◇
         │                │NO
         │           ┌──────────┐
         │           │  終  了  │
         │           └──────────┘
```

[Translation done.]